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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,455	05/24/2006	Nigel David Timms	31229-231165	5510
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VENABLE LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998			EXAMINER MELLON, DAVID C	
			ART UNIT 1797	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/580,455

Applicant(s)

TIMMS ET AL.

Examiner

DAVID C. MELLON

Art Unit

1797

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,6,9-14, 17 and 24-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,6,9-14, 17 and 24-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-06)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

Claim 9 recites the limitation "the fluid is a fuel" in line 1. There was never a previous positive recitation of a fluid in claim 2. Claim 2 only recites a functional limitation that fluid flowing through the fluid channel is subjected to a magnetic field. However, this does not constitute a positive limitation requiring a fluid to be a component of the claims invention; only that the claimed invention be capable of having a fluid flow through it. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
- 6. Claims 2, 6, 9-10, 12-14, 17, and 24-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over McClenaghan et al. (EP 0976682 A2).**

Regarding claims 2, 6, and 25-26 McClenaghan et al. discloses a magnetic treatment of fluids device (title and abstract) in figures 1-2 comprising:

- Two or more fluid channels (36, 38) coupled to input and output through a fuel supply conduit (abstract)
- Each fluid channel having at least one peripherally located magnet (16, 18)
- Wherein the at least one magnet is removably received in a body section of the device (C5/L1-12, C2/L18-26).

McClenaghan does not explicitly disclose a ratio of cross-sectional areas of the fluid supply conduit to the total cross sectional area of all the fluid channels in the range of 1:1.2-1:2.4. McClenaghan further establishes at [0033] that the channels can have a width of 5cms while the range of fuel pipe can be 7.5-10cm. Accordingly, it would have been obvious to one having ordinary skill in the art at the time of the invention to have had a ratio as such since McClenaghan establishes that there is a difference in cross sectional areas, see in figure 1 also [0033], magnet separator housing is wider than the fluid conduit and to choose by routine experimentation the optimal ratios. Accordingly, one having ordinary skill in the art would have chosen a ratio as such to improve fluid exposure to magnetic fields. Furthermore, absent some showing of secondary evidence, the relative dimensional ratios of the cross sectional areas are not patentably distinct from the prior art teaching of McClenaghan because [W]here the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently from the prior art device, the claimed device was not patentably distinct from the prior art device. *Gardner v. TEC Systems, Inc.*, 220 USPQ 777 (1984). Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Accordingly, Applicant has not established a criticality of the ratio variable.

Regarding claim 9, McClenaghan et al. further discloses treating fuel (Abstract).

Regarding claim 10, McClenaghan et al. discloses a magnetic treatment of fluids device (title and abstract) in figures 1-2 comprising:

- Two or more fluid channels (36, 38)
- Each fluid channel having at least one peripherally located magnet (16, 18)
- Wherein the at least one magnet is removably received in a body section of the device (C5/L1-12, C2/L18-26).

McClenaghan does not explicitly disclose a ratio of cross-sectional areas of the fluid supply conduit to the total cross sectional area of all the fluid channels in the range of 1:1.1-1:2.8. McClenaghan further establishes at [0033] that the channels can have a width of 5cms while the range of fuel pipe can be 7.5-10cm. Accordingly, it would have been obvious to one having ordinary skill in the art at the time of the invention to have had a ratio as such since McClenaghan establishes that there is a difference in cross sectional areas, see in figure 1 also [0033], magnet separator housing is wider than the fluid conduit and to choose by routine experimentation the optimal ratios. Accordingly, one having ordinary skill in the art would have chosen a ratio as such to improve fluid exposure to magnetic fields. Furthermore, absent some showing of secondary evidence, the relative dimensional ratios of the cross sectional areas are not patentably distinct from the prior art teaching of McClenaghan because [W]here the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently from the prior art device, the claimed device was not patentably distinct from

the prior art device. *Gardner v. TEC Systems, Inc.*, 220 USPQ 777 (1984).

Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Accordingly, Applicant has not established a criticality of the ratio variable.

Regarding claim 12, McClenaghan et al. further discloses at least one internal magnet within the fluid channel (24).

Regarding claim 13, McClenaghan et al. further discloses the device is fitted within an existing fluid supply conduit (abstract).

Regarding claim 14, McClenaghan et al. further discloses the device comprises one or more internal replaceable magnetic cartridges (24) held in position inside the device by retaining means into which the removable magnet cartridges will slot, wherein the cartridges splits the fluid channel into subsidiary channels (see figure 2, also slots at C2/L18-26).

Regarding claim 17, McClenaghan et al. discloses all of the claim limitations as set forth above.

McClenaghan does not explicitly disclose a ratio of cross-sectional areas of the fluid supply conduit to the total cross sectional area of all the fluid channels in the range of 1:1.2-1:2.4. McClenaghan further establishes at [0033] that the channels can have a width of 5cms while the range of fuel pipe can be 7.5-10cm. Accordingly, it would have been obvious to one having ordinary skill in the art at the time of the invention to have had a ratio as such since McClenaghan establishes that there is a difference in cross

sectional areas, see in figure 1 also [0033], magnet separator housing is wider than the fluid conduit and to choose by routine experimentation the optimal ratios. Accordingly, one having ordinary skill in the art would have chosen a ratio as such to improve fluid exposure to magnetic fields. Furthermore, absent some showing of secondary evidence, the relative dimensional ratios of the cross sectional areas are not patentably distinct from the prior art teaching of McClenaghan because [W]here the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently from the prior art device, the claimed device was not patentably distinct from the prior art device. *Gardner v. TEC Systems, Inc.*, 220 USPQ 777 (1984). Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Accordingly, Applicant has not established a criticality of the ratio variable.

Regarding claim 24, McClenaghan et al. further discloses treating the fluid at right angles to the magnets ([0017]).

Regarding claim 27, McClenaghan et al. discloses a magnetic treatment of fluids device (title and abstract) in figures 1-2 comprising:

- A fluid channel adapted having an input and output connected with a fuel supply conduit (Abstract)
- Two or more fluid channels split from the input fluid channel (36, 38)

- Each fluid channel having at least one peripherally located magnet (16, 18)
- Wherein the fluid channel is dimensioned and configured to slow fuel flowing through (the splitting of the channel provides a barrier at 34 along with leading flow director plus see at [0033] that dimensions can be larger thus resulting in slowed feed).

McClenaghan does not explicitly disclose a ratio of cross-sectional areas of the fluid supply conduit to the total cross sectional area of all the fluid channels in the range of 1:1.1-1:2.8. McClenaghan further establishes at [0033] that the channels can have a width of 5cms while the range of fuel pipe can be 7.5-10cm. Accordingly, it would have been obvious to one having ordinary skill in the art at the time of the invention to have had a ratio as such since McClenaghan establishes that there is a difference in cross sectional areas, see in figure 1 also [0033], magnet separator housing is wider than the fluid conduit and to choose by routine experimentation the optimal ratios. Accordingly, one having ordinary skill in the art would have chosen a ratio as such to improve fluid exposure to magnetic fields. Furthermore, absent some showing of secondary evidence, the relative dimensional ratios of the cross sectional areas are not patentably distinct from the prior art teaching of McClenaghan because [W]here the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently from the prior art device, the claimed device was not patentably distinct from the prior art device. *Gardner v. TEC Systems, Inc.*, 220 USPQ 777 (1984).

Furthermore, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233. Accordingly, Applicant has not established a criticality of the ratio variable.

7. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over McClenaghan et al. (EP 0976682 A2) and further in view of Weisenbarger et al. (USP 4,711,271).

Regarding claim 11, McClenaghan et al. discloses all of the claim limitations as set forth above. McClenaghan et al. further discloses using as casing material one which does not become magnetized over time ([0030]), however does not explicitly disclose a non-ferrous material.

Weisenbarger et al. discloses a magnetic fluid conditioner (abstract) in figures 1 and 2 comprising a fluid channel (16) with peripherally mounted magnets (18a and 18b) with a non-ferrous plastic body (C2/L38-45) which is disclosed as used because it is non magnetic.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the casing of McClenaghan et al. by using a non-ferrous material as taught by Weisenberger et al. for the purpose of providing a non-magnetic housing which cannot be magnetized and because it would be obvious to consider equivalent metals as it is taught in McClenaghan et al. that metals of similar properties may also be used.

Response to Arguments

8. Applicant's arguments filed 5/17/2010 have been fully considered but they are not persuasive.

- Applicant alleges there is sufficient antecedent basis for the claim 9 limitation "the fluid".

This argument is not persuasive. Claim 2 only recites a functional limitation that fluid flowing through the fluid channel is subjected to a magnetic field. However, this does not constitute a positive limitation requiring a fluid to be a component of the claims invention; only that the claimed invention be capable of having a fluid flow through it.

- Applicants have provided two documents as evidence that the claimed invention is non-obvious and that the ratio provides a non-obvious advantage as compared with the prior art.

Applicant should submit an Information Disclosure Statement listing these documents such that they may be formally cited and made part of the record.

The provided documents do not establish with sufficient evidence non-obviousness of the claimed invention nor do the documents establish a criticality or unexpected result occurring between the prior art and the instant claimed invention. Additionally, the documents are not commensurate with the scope of the instant claims.

The documents do not provide any explanation, statement, or evidence showing that the "fuel+" device is identical to the claimed invention. Additionally, the documents do not make any mention of the claimed ratios, nor do they provide evidence that it is the claimed ratios which provide for an unexpected result. The documents further fail to

compare the claimed invention to the prior art devices; rather the documents compare the "fuel+" device with a system that had no such treatment device previously installed.

The documents do not discuss nor provide any details of the structure of a "fuel+" device. Accordingly, this deficiency is so critical that no further evaluation would be possible. Since the instant claims are directed to apparatus, one must compare details of an apparatus in order to determine if the "fuel+" device is even commensurate with the scope of the instant claims.

The documents do not make any mention of a ratio. Nor do the documents establish that a specific ratio provides any effect. Rather the documents establish that a "fuel+" device provides improved fuel efficiency over a situation where no device is used.

Further, supporting evidence should be submitted in the form of affidavits or declarations under 1.130, 1.131, or 1.132.

It is further noted that the prior art does in fact disclose a ratio on the order of 1:1.5; see discussed values in the rejections above.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID C. MELLON whose telephone number is (571)270-7074. The examiner can normally be reached on Monday through Thursday 9:00am-5:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571) 272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tony G Soohoo/
Primary Examiner, Art Unit 1797

/D. C. M./
Examiner, Art Unit 1797